

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

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MAY 28 1993

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

In the Matter of)
)
Replacement of Part 90 by)
Part 88 to Revise the)
Private Land Mobile Radio)
Services and Modify the)
Policies Governing Them)

PR Docket No. 92-235

To: The Commission

JOINT COMMENTS
OF THE
INDUSTRIAL TELECOMMUNICATIONS ASSOCIATION, INC.,
COUNCIL OF INDEPENDENT COMMUNICATION SUPPLIERS AND
TELEPHONE MAINTENANCE FREQUENCY ADVISORY COMMITTEE

Industrial Telecommunications
Association, Inc.
Council of Independent
Communication Suppliers
Telephone Maintenance Frequency
Advisory Committee
1110 N. Glebe Road
Suite 500
Arlington, Virginia 22201

Date: May 28, 1993

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The Joint Commenters urge the Commission not to implement its proposal to designate 258 channels in the 150 MHz band for "Innovative Shared Use". The Joint Commenters favor consolidation of the nineteen individual private land mobile radio services into four service pools: (1) Private Industrial, (2) Specialized Mobile Radio, (3) Business/General Category, and (4) Public Safety. In conjunction with the consolidation of services, the Joint Commenters urge the Commission to adopt a system of competitive coordination for the "new" channels created by the conversion to narrowband channels.

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TELEPHONE MAINTENANCE FREQUENCY ADVISORY COMMITTEE

The Industrial Telecommunications Association, Inc. ("ITA"), the Council of Independent Communication Suppliers ("CICS"), and the Telephone Maintenance Frequency Advisory Committee ("TELFAC")¹ hereby respectfully submit these Comments responsive to the Commission's proposals in the above-captioned proceeding.²

I. PRELIMINARY STATEMENT

1. The Industrial Telecommunications Association, formerly the Special Industrial Radio Service Association, Inc., is a non-

¹ Throughout these Comments, ITA, CICS and TELFAC are referred to, collectively, as the "Joint Commenters".

² Notice of Proposed Rule Making (FCC 92-469), PR Docket No. 92-235, adopted October 8, 1992, 7 FCC Rcd 8105 (1992) (hereinafter "Notice").

profit association organized under the laws of the District of Columbia. ITA is the Commission's certified frequency coordinator for the Special Industrial Radio Service and the Industrial/Land Transportation 800/900 MHz frequency "pools." ITA also coordinates channels from the general access pool for those entities (a) eligible to become Industrial/Land Transportation licensees, (b) wishing to expand trunked systems, or (c) consolidating conventional systems into a trunked system. Additionally, in accordance with the Commission's May 11, 1993 decision in PR Docket No. 92-209, ITA has been authorized to coordinate applications proposing to use the 800 MHz General Category channels for conventional SMR systems. ITA coordinates in excess of 6,000 applications per year on behalf of applicants seeking Commission authority to operate radio stations on frequency assignments allocated to the Special Industrial Radio Service and the enumerated 800/900 MHz frequency "pools."

2. ITA enjoys the support of a membership that includes more than 9,000 licensed two-way land mobile radio communications users and the following trade associations:

- Alliance of Motion Picture and Television Producers
- American Mining Congress
- Associated Builders & Contractors, Inc.
- Florida Citrus Processors Association
- Florida Fruit & Vegetable Association
- National Aggregates Association
- National Agricultural Aviation Association
- National Food Processors Association
- National Propane Gas Association
- National Ready-Mixed Concrete Association
- National Utility Contractors Association

New England Fuel Institute
United States Telephone Association

3. The Council of Independent Communication Suppliers is an unincorporated association of entities engaged in serving the needs of private radio eligibles, particularly those located in small and rural communities throughout the United States. CICS' membership is open to SMR operators, radio dealers, equipment suppliers, and consultants. CICS was formed to provide these entities with a voice in the policy-making process governing use of the electromagnetic spectrum, especially spectrum allocated to the private land mobile radio services. CICS is an independent membership market council of the Industrial Telecommunications Association, Inc.

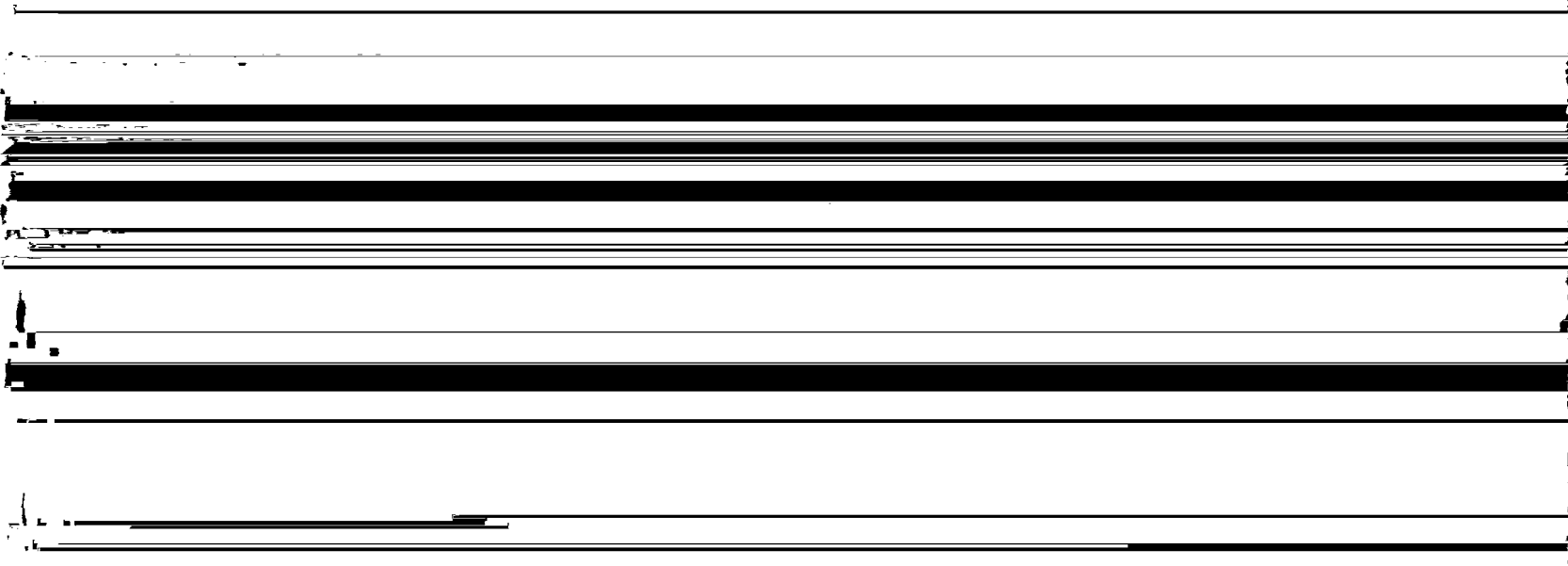
4. The Telephone Maintenance Frequency Advisory Committee ("TELFAC") is an unincorporated association representing all licensees in the Telephone Maintenance Radio Service. TELFAC is the Commission's certified frequency coordinator for the Telephone Maintenance Radio Service. TELFAC is governed by a council of licensee representatives presently composed of representatives from Ohio Bell Telephone Company, New Jersey Bell Telephone Company, Rock Hill Telephone Company, U S WEST

II. BACKGROUND

5. The FCC has undertaken an effort aimed at overhauling the existing Part 90 rules governing the Private Land Mobile Radio Services. To accomplish this revision, the Commission proposes to replace Part 90 with a new Part 88. The proposed Part 88 represents the FCC's attempt to "refarm" the private land mobile radio spectrum. In particular, the Commission hopes to increase the usefulness of 421-512 MHz (referred to as the "450 MHz band") and 150-174 MHz (the "150 MHz band") through introduction of four main improvements: (1) conversion to reduced channel spacing or narrowband channels, (2) channel exclusivity, (3) consolidation of radio services, and (4) more efficient technical and operational standards.

A. The Commission's Proposal

6. The Commission's proposal for the 421-512 MHz range is premised on the use of 6.25 kHz equipment by all new stations



permitting co-channel assignments every 50 miles.




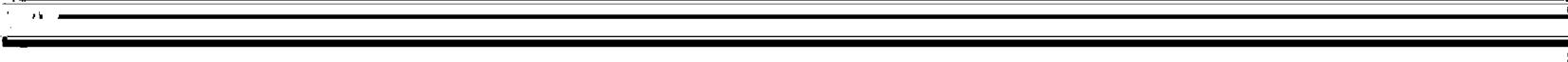

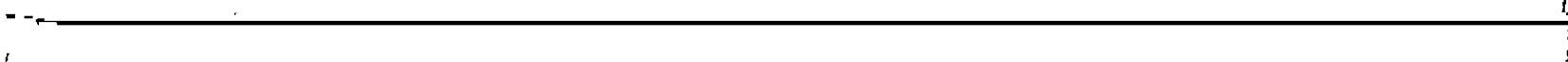

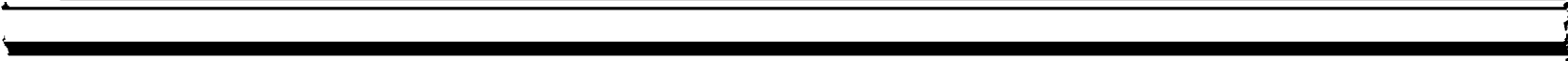
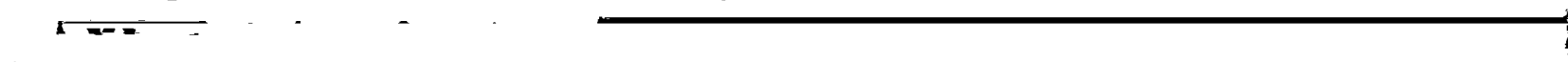



7. Regarding channel exclusivity, the Commission proposes to introduce exclusive channel assignments in the 450 MHz and 150 MHz bands through a concept it terms "exclusive use overlay" or "EUO". Under this approach, if a licensee obtains the concurrence of all large co-channel users within its service area, it would be eligible for an EUO license. The effect of the EUO license is that no new licensees would be added to the channel.

8. The Commission also proposes to designate 258 channel pairs in the 150-162 MHz band for wide-area "Innovative Shared Use" systems. Under this approach, licensees would receive authority to operate on designated channels throughout seven geographic regions corresponding to the seven regional Bell operating areas. Licensees would be given wide latitude to experiment with and employ innovative technical operations.

9. Finally, the Commission proposes to consolidate the existing services into service categories or "pools" similar to the frequency pool structure established for the 800 MHz and 900 MHz bands. The proposal would consolidate the industrial, business and land transportation services into a "non-commercial" pool.

B. LMCC's "Consensus Plan"

10. On April 28, 1993, the Land Mobile Communications Council ("LMCC") filed its "Consensus Plan" with the Commission.³ LMCC was particularly concerned with the Commission's proposals for introducing narrowband channels and imposing limits on effective radiated power ("ERP"). LMCC developed its Consensus Plan in an effort to provide an



service pools.

**III. OVERARCHING PRINCIPLES REGARDING REVISION OF THE RULES
GOVERNING THE PRIVATE LAND MOBILE RADIO SERVICES**

13. The Joint Commenters respectfully submit that, when seeking to restructure the private land mobile radio services, the Commission must be guided by identifiable and generally accepted principles of spectrum utilization. The Joint Commenters believe it is beneficial, therefore, to examine in some detail public policy principles which may help to guide the "refarming" effort.

14. Fortunately, the effort to examine guiding principles need not be conducted de novo. The Commission has already engaged in such an effort on several occasions. For example, in 1949, the Commission identified six principles that served to guide its deliberations concerning the development of rules for the Public Safety, Industrial and Land Transportation Radio Services.⁴ Included among the principles articulated by the

⁴ Report and Order, adopted April 27, 1949, 13 FCC 1190. Issues under consideration in that proceeding included revision of the rules governing the Public Safety Radio Services and establishing a new Part 11 to govern the Industrial Radio Services and a Part 16 to govern the Land Transportation Radio Services.

Commission in 1949 were the following:

- Spectrum should be allocated for those services that would benefit large groups of the population rather than services that would aid relatively small groups.
- Radio services necessary for the safety of life and property deserve more consideration than those services which are more in the nature of convenience or luxury.
- For services already assigned frequencies on a regular basis, existing investment in communications facilities should be taken into consideration before adopting changes that would require users to convert to different frequencies.
- Based upon engineering consideration of propagation characteristics in different portions of the spectrum, the needs of the services under consideration should be matched with the capabilities of the spectrum available.⁵

15. The Joint Commenters recognize that the factors considered by the FCC in its allocation and rule making proceedings shift over time, as social and political priorities change. Ultimately, however, most FCC decisions allocating spectrum and restructuring radio services can be traced back to one or more of the six principles outlined in 1949. As discussed in further detail below, the Joint Commenters believe that the four principles cited above are particularly relevant to the matters under consideration in the instant proceeding.

⁵ The remaining two principles relied on by the Commission were: (1) Whether the service proposed really required the use of radio or whether wire lines were a practicable substitute; and (2) Consistent with international agreement, the allocation decisions should allow for international standardization of maritime mobile service allocations.

16. There is also significant precedent available to provide helpful guidance on the subject of implementing narrowband channels in the private land mobile radio services. For both the 150-174 MHz and 450-470 MHz bands, the Commission has mandated channel splitting procedures during earlier eras. In 1956, for example, the Commission debated ways in which to implement "narrowband" in the 152-162 MHz band.⁶ The issues under consideration at that time were very similar to those facing the Commission today.⁷ In that proceeding, the Commission devoted considerable thought to a suitable timeframe for implementing reduced channel spacing at 150 MHz. The Commission concluded:

it is necessary to establish effective dates. Two dates are necessary with respect to a particular frequency: (a) A date after which at least the majority of equipment manufacturers will be in a position to supply, in production quantities, equipment which conforms to the new technical standards; and (b) a date by which all equipment operating on the

⁶ Report and Order in Docket No. 11253, adopted September 19, 1956, 39 FCC 487.

⁷ The Commission's Report and Order in Docket No. 11253 included the following discussion:

Actual utilization of reduced channel spacing is dependent on the availability of transmitting equipment which meets the necessary tighter specifications for frequency stability, bandwidth and frequency deviation, and of receiving equipment having the requisite

frequency shall be brought into conformity with the new technical standards.⁸

17. When setting the implementation timeframes for the narrowband channels at 152-162 MHz, the Commission settled upon an approach aimed at phasing in narrowband equipment over a seven year period. In adopting this approach, the Commission mandated that:

(a) For authorizations issued beginning two years from

entire system at once.

19. For the vast majority of private industrial licensees, radio systems fulfill a vital communications need. Their radio systems are not disposable or discretionary. Rather, these systems are a major asset which must be maintained in operation on a day-to-day basis. Under these circumstances, given both the size of the investment in radio systems and the vital role which the communications systems serve, it is not feasible for licensees to change out their entire system at one time.

20. The Joint Commenters urge the Commission to adequately provide for the graceful transition and amortization of imbedded systems as well as a sufficient planning cycle to implement new technologies. The Commission permitted a seven-year cycle for the conversion to "narrowband" 30 kHz equipment at 152-162 MHz during the 1950's. Since that time, the telecommunications environment has become progressively more complex and the equipment more sophisticated.

21. In setting the parameters for the migration to narrower channels in the context of this proceeding, the Commission must allow an adequate period for the conversion process.¹⁰ As

¹⁰ A critical component of LMCC's recommended transition plan, for 450 MHz as well as 150 MHz, is the emphasis on permitting use of equipment which offers an efficiency level equivalent to narrowband 12.5 kHz equipment. The Joint Commenters fully support LMCC's efforts to preserve licensees'

reflected in the guiding principles promulgated in 1949, the "existing investment in communications facilities should be taken into consideration before adopting changes that would require users to convert to different frequencies."

IV. ISSUE DISCUSSION

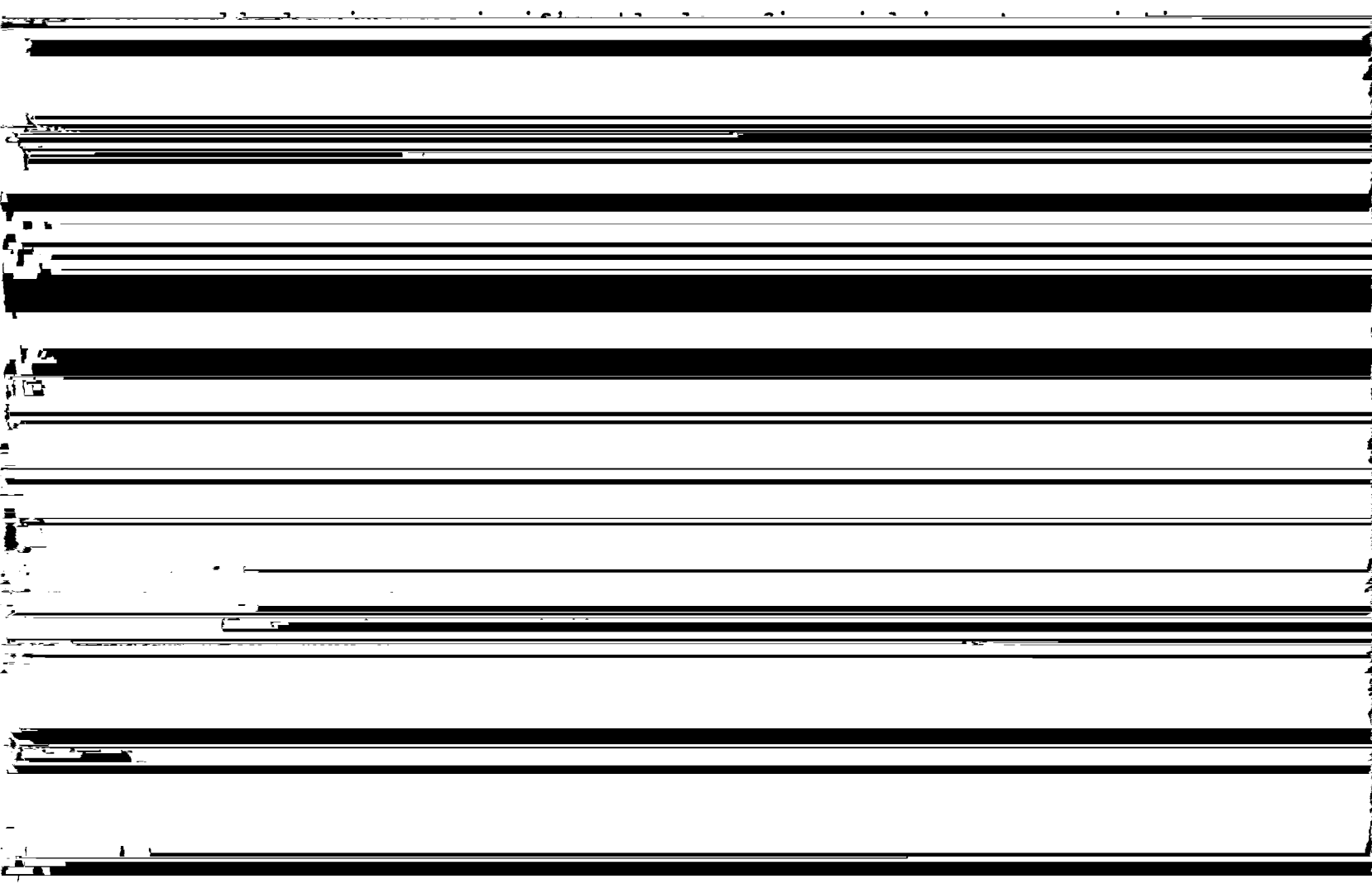
- A. Consistent with the Consensus Plan, the Commission should mandate the conversion of systems in the 421-512 MHz band to true 12.5 kHz equipment or equivalent efficiency by January 1, 2004.

22. The Commission proposes to require existing systems in the 450 MHz band to convert to 12.5 kHz channels by January 1, 1996. Existing systems in the 150 MHz band would have to convert to 15 kHz channels by the same date. The Joint Commenters respectfully submit that these proposals are overly aggressive, even by the standards applied in the 1950's. By contrast, the Joint Commenters believe that the Consensus Plan presents a reasonable and workable model for the conversion to narrowband channelization.

flexibility in this regard. The Joint Commenters recognize that the public safety community has devoted substantial effort to developing the "APCO 25" standard for digital voice transmissions with an overlay of data. Interest in this technology is not limited to public safety users. Other large users, including Industrial and Land Transportation licensees, also have an interest in the "APCO 25" standard. The Joint Commenters therefore urge the Commission not to preclude the use of such technology by industrial and land transportation licensees and other non-public safety users.

23. Under the Consensus Plan approach for the 421-512 MHz band, licensees seeking to preserve primary status for their systems would have to convert to 12.5 kHz equipment no later than January 1, 2004. The Consensus Plan also recommends that, by the year 1999, the FCC should begin a follow-up rule making to examine whether there should be a further reduction to 6.25 kHz bandwidths. If the conversion to 6.25 kHz bandwidths appears to be warranted, licensees would have to change out their systems by the year 2014.

24. The conversion process outlined in the Consensus Plan is considerably more realistic and viable in today's market than the process proposed in the Notice. The Consensus Plan approach



all systems should be required to convert to 6.25 kHz channels by the year 2014. The second option calls for conversion to 6.25 kHz equipment effective January 1, 2004.

26. The Joint Commenters believe the first LMCC option is the only alternative that can be reasonably implemented. This option would result in a gradual reduction, over the next ten years, in adjacent channel interference and ultimately would eliminate the need for adjacent channel mileage separations. The conversion to narrowband equipment involves more than simply amending the existing rules to prescribe deadlines for the conversion. With the collective, industry-wide investment in existing equipment in excess of \$25 billion, the conversion to narrowband channels will necessarily proceed at a very deliberate pace. The conversion will also introduce a process by which licensees may become gradually acclimated to the new narrowband environment.

27. The fundamental deficiency in Option B, in the view of the Joint Commenters, is that this approach makes no provision for a gradual change out of equipment. Under Option B, there would be no need for licensees to make any change at all until the year 2004, with the result that licensees may remain blithely oblivious to the changes that will eventually occur. The Joint Commenters are concerned that, if the first step in the conversion process does not take place until 2004, as would be

the case under Option B, the changes may not gain acceptance in the marketplace.

28. As the Commission is well aware, changing the FCC's rules is relatively easy. Inducing changes in \$25 billion worth

radiated power in excess of 300 watts.

30. The spectrum in the 150 MHz and 450 MHz bands clearly is capable of providing service over significantly greater distances than the Commission's proposal would permit. There is an undeniable need for service over significantly greater distances than would be permitted under the Commission's proposal. Accordingly, the Joint Commenters urge the Commission not to impose the limits on effective radiated power contained in the proposed Section 88.429 for the 150 and 450 MHz bands.

31. The Consensus Plan recommends an alternative approach that would afford licensees the flexibility to operate with HAAT and ERP sufficient to provide service radii of up to 47 miles for the 450 MHz band and up to 63 miles for the 150 MHz band. The Joint Commenters support LMCC's flexible approach to HAAT and ERP limits. The "safe harbor" table will ensure that licensees have the flexibility to implement service radii that are consistent with their actual requirements.

32. Underlying the "safe harbor" HAAT/ERP tables presented in LMCC's Consensus Plan is a recognition that requiring licensees to scale back their service areas to permit channel reuse at 50-mile intervals is arbitrary and impractical. As noted in the Consensus Plan, the Commission's proposed power limits could actually result in a net increase in spectrum use,

i.e., microwave spectrum. With ERP limits predicated on 50-mile frequency reuse, many licensees will have to use multiple base stations to achieve adequate coverage over the desired service area. Microwave systems may have to be constructed in order to interconnect these multiple base stations. Such an operation would clearly be more spectrally wasteful than if licensees were permitted to design their stations to correspond to the actual service area required.

33. Under the Consensus Plan, licensees would be able to establish svstems serving areas of varving sizes. depending on

terrain profiles, HAAT calculations, ERP calculations, antenna patterns, service area requirements and coverage predictions.

35. Further, as discussed in the Consensus Plan, the Commission should specify that applicants will bear the burden of proof and persuasion in overturning the coordinator's recommendations. The Commission would, of course, retain final authority to resolve licensing issues.

- D. The Commission should permit licensees in the 450 MHz and 150 MHz bands to obtain exclusive use of their**

situations such as manufacturing plants and refineries, licensees may operate over areas having a radius of 10 miles or less and yet may require a relatively high number of mobile and portable units. The Joint Commenters believe that licensees in this situation should have the opportunity to gain exclusive use of their assigned channels in the same manner as licensees requiring larger service areas.

38. The frequency coordination process is sufficiently flexible to recognize and protect systems having smaller service areas. The Joint Commenters therefore urge the Commission to extend the exclusivity provisions to systems operating a relatively high number of end user units over small service areas. This could be easily accomplished by establishing a graduated scale of the number of mobile/portable units required for exclusivity, with the scale geared to systems having service radii ranging from large to small.¹¹

E. The Commission should not implement its proposal to designate 258 channels in the 150 MHz band for "Innovative Shared Use".

39. The Joint Commenters are opposed to the "Innovative Shared Use" proposal. This proposal will not help to serve the

¹¹ As the Commission's Notice states at footnote 13 of Appendix A, the exclusivity provisions should also be flexible enough to allow exclusivity for systems used to protect against the danger of imminent life-threatening or property-threatening accidents, as in the case of oil refineries, for example.

land mobile communication needs of the user public. There is simply insufficient spectrum available to permit experimentation with concepts such as "Innovative Shared Use". The proposal does not identify any tangible application or specific purpose which an "Innovative Shared Use" system might serve. The Joint Commenters do not believe there is any justification at all for experimenting with "Innovative Shared Use" systems at a time when there are readily identifiable shortages of useful private land mobile radio spectrum in significant portions of the country.

40. As noted above, one of the Commission's long-standing principles of spectrum management has been to refrain from using the radio spectrum to accommodate uses that are in the nature of a convenience or luxury. The fundamental concern of the Joint Commenters is that there is no assurance that "Innovative Shared Use" systems, if implemented, will ever serve the identifiable and specific needs of the private land mobile user community. These needs tend to require "local" rather than regional systems.

41. In contrast, the services that might be offered by "Innovative Shared Use" systems are abstract and speculative. Viewed from this perspective, the uses that might be served by "Innovative Shared Use" systems can only be categorized as convenience or luxury services. The Joint Commenters do not believe that the "Innovative Shared Use" proposal is consistent with the nature of the private land mobile services and uses the